2024 Ohio Statewide Floodplain Management Conference

Building Resilience, One Block at a Time

SESSION SUMMARIES

Attendees are not required to pre-select any sessions at the conference and may customize their conference experience by attending any session that is relevant to their interests and educational needs. Please feel free to move to different Tracks according to your interests. We have tried our best to align the session schedule, but you may notice some differences in session start and ending times.

This document includes summaries of *many* of the sessions at the 2024 conference. We have also suggested a "Target Audience" for all sessions so that attendees can more easily select sessions.

Beginner: Generally new to Floodplain Management & the National Flood Insurance Program (NFIP)
Intermediate: Moderate amount of experience with Floodplain Management & the NFIP
Advanced: Significant amount of experience with Floodplain Management & the NFIP &/or engineering related

WEDNESDAY, AUGUST 21, 2024

7:00 – 8:30am	**REGISTRATION, BREAKFAST, & EXHIBITS**
8:30 - 9:00am	**CONFERENCE WELCOME**
	Dena Barnhouse, PE - ODNR Division of Water Resources
	Steve Ferryman, CFM – Ohio Emergency Management Agency
	Mark Seidelmann, PE, CFM – Ohio Floodplain Management Association
	Shawn Arden, PE, CFM - Ohio Floodplain Management Association
Target Audience	Everyone

9:00 – 10:00am	**OFMA General Session & Update**
	Ohio Floodplain Management Association (OFMA) Board
Target Audience	Everyone

10:00 – 10:15am	**BREAK & EXHIBITS**

TRACK 1	**ENGINEERING IN FLOODPLAIN MANAGEMENT**
10:15 - 11:15am	**Developing in Zone AE with Floodways – Guidance for Communities**
Presenter	*Jacob Bench, PE, CFM - ODNR Floodplain Management Program*
Target Audience	Intermediate - Advanced

11:15am - Noon	**Determining When Is A 2D Model Appropriate?**
Presenters	*Chad Boyer, PE, CFM – ms consultants, inc.*
	Jacob Bench, PE, CFM - ODNR Floodplain Management Program
Target Audience	Intermediate - Advanced

TRACK 2	**MITIGATION PLANNING**
10:15 - 10:45am	**Hazard Mitigation Assistance (HMA) Updates**
	Steve Ferryman, CFM - Ohio EMA
Target Audience	Everyone

10:45 – 11:15am	**The Long BRIC Road**

Presenters	*Jesse Rufener, PE, CFM – GPD Group*
	Steve Ferryman, CFM – Ohio EMA

Summary	The Mahoning Valley Sanitary District (MVSD) has provided quality drinking water since 1932 – currently MVSD has approximately 220,000 customers in Trumbull and Mahoning Counties. The source of water for the MVSD's 60-mgd capacity treatment plant comes from the existing Meander Creek Reservoir, which is the only source of water for many of the 220,000 customers. The reservoir is impounded by the existing Mineral Ridge Dam, designated a Class I dam by ODNR, which is owned and operated by MVSD. Should the dam fail, not only would catastrophic flooding occur, but much of the region would also be without drinking water for a significant period of time. The earthfill embankment dam was originally constructed in 1932 with significant modifications and repairs made in 1995. The earthfill embankment, principal spillway and auxiliary spillways do not meet current standards and in 2015 MVSD began the process to investigate alternatives to bring the dam into compliance. In 2021 MVSD began on the road to applying for and ultimately receiving a Building Resilient Communities and Infrastructure (BRIC) Grant. In 2021, design plans were substantially complete, however, all approvals had not yet been obtained. MVSD started the process planning to submit for the grant during the 2021 funding cycle which included an event to educate the public on the need for the improvements to the dam and to garner support for the grant application effort. Over 20 letters of support were received from federal, state, and local politicians, universities, and organizations that have interests in the region. MVSD finalized the application for submittal as part of the 2021 BRIC grant cycle, however, the decision was made to withhold the application from the national competition. This decision, while not favorable to MVSD's wishes and timeline, likely was to their benefit for several reasons. First, Ohio EMA worked with MVSD to obtain another grant to complete the environmental studies necessary should the project be awarded a BRIC grant for construction of the improvements. Second, holding the application for the next funding cycle allowed the design of the improvements to be completed and full approvals received from ODNR. Finally, the 2022 BRIC funding amount increased from $1.16 billion in 2021 to $2.295 billion which allowed for many more projects to be awarded and there was increased emphasis on infrastructure projects. When the 2022 BRIC Notice of Funding Opportunity was announced, MVSD was in a great position to put together the application for a BRIC grant, which they received notice that they had been selected in late August, 2023. Another 5 to 6 months of FEMA review which involved several RFI's from FEMA, past until the official notice of award letter was received on April 1, 2024. With funding in hand, MVSD plans to bid the project this summer, award by the fall with construction estimated to begin in late 2024. Over 3.5 years passed from the time MVSD made the initial pre-application in 2021 till receiving the official notice of award and funding for the project, which ultimately helped the rate payers in a region that has struggled economically for some time.
Target Audience	Everyone

11:15am - Noon	**How to Develop Your Best Mitigation Grant Application**
Presenters	*Dan Clevidence – Ohio EMA*
	Jacob Horton – Ohio EMA
Target Audience	Everyone

TRACK 3	**THE BASICS OF FLOODPLAIN MANAGEMENT**
10:15 - 11:30am	**So… You're a New Floodplain Manager, What Do You Need to Know?**
	This presentation will share tools and resources for new Floodplain Managers to assist them in their National Flood Insurance Program's administration. Concepts covered will include: NFIP basics, flood hazard mapping, floodplain management regulations, & flood insurance.
Target Audience	Beginner

11:30am - Noon	**Understanding How to Read & Use a Flood Insurance Rate Map (FIRM) & Flood Insurance Study (FIS) – Part 1**
Presenters	*Katherine Goeppner, CFM – ODNR Floodplain Management Program*
	Rachel Woods – ODNR Floodplain Management Program

Sam Beam – ODNR Floodplain Management Program

Summary	This presentation will provide an overview of floodplain mapping through the NFIP. Using the Flood Insurance Study (FIS) to determine the Base Flood Elevation (BFE) will also be discussed. This presentation is geared towards newer floodplain managers or participants who want to brush up on the basics of mapping. Part 1 of 2.
Target Audience	Beginner

Noon – 12:15pm	**BREAK & EXHIBITS**
12:15 – 1:15pm	**LUNCH**
1:15 – 1:30pm	**BREAK & EXHIBITS**

TRACK 1	**PREPARING FOR THE IMPACTS OF CLIMATE CHANGE**
1:30 – 2:15pm	**Federal Flood Risk Management Standard (FFRMS) Implementation**
Presenter	*Brian Killen, CFM – FEMA Region 5*
Summary	Flood risk in the nation is changing, and while continuing population growth and development play a role, as do poor land use and infrastructure decisions, the trends point to an escalation in future flood risk. Responding to this evolving hazard and threat to investments by federal agencies and taxpayers, the President directed the adoption of a new Federal Flood Risk Management Standard, or FFRMS. FFRMS, implemented under Executive Order 13690, modified an earlier Executive Order that has been in place since 1977 (EO11988, Floodplain Management). Under FFRMS there is a new standard for federal taxpayer funded projects and actions. This new standard requires a climate or weather-based assessment to ensure that federal investments in or near floodplains are protected from future flood events. Through the Federal Flood Standard Support Tool, the FFRMS standard allows the use of a 0.2-percent-annual-chance Flood (500-year) standard or freeboard as alternatives, until federal agencies have developed the climatic or weather-based approach.
	Implementation of FFRMS at the federal level will directly benefit state and local governments' cost-shared projects. Many states and local governments have standards similar or stronger than the FFRMS and aligning the approaches will be of benefit all. FFRMS is an investment strategy that pays long-term benefits regardless of the funding source and is simply good policy and represents a fiscally responsible use of federal taxpayer dollars
Target Audience	Everyone

2:15 – 3:00pm	**Climate Change & Its Impact on How We Will Manage Stormwater & Flood Risk**
Presenter	*Shawn Arden, PE, CFM – EMH&T*
Summary	Climate change, and specifically its impact on precipitation, is of critical interest to floodplain management practitioners. Decisions regarding infrastructure design, permit issuance, insurance, and mitigation rely on the availability of accurate flood hazard analyses and mapping. Up to this point, these analyses and maps have been heavily based on published rainfall depth-frequency data developed from historical precipitation data. NOAA Atlas 15, upon publication, is expected to provide forward-looking rainfall depth-frequency data for use in planning for future flood events. However, Atlas 15 will only provide the rainfall data. Many questions remain regarding how this data will be incorporated into daily use by the industry practitioners. These questions include: Will new infrastructure require designs to consider forecasted rainfall depths over the entirety of the infrastructure's expected life span? Use of higher rainfall depth values will inevitably result in larger bridges and culverts; and in turn, create the potential for increases in peak streamflow rates. How will this concern be managed in design, permitting, and potentially, liability considerations? How will communities address future rainfall conditions in their stormwater and floodplain management regulations? Stormwater related infrastructure is generally underfunded under current demands. How will we fund the future improvements necessary to continue managing and mitigating flood risk?
Target Audience	Intermediate - Advanced

3:00 – 3:30pm	**Enhancing Flood Resilience in Morgan County, Ohio: A Hydraulic Study & Mitigation Strategy**
Presenter	*Chad Boyer, PE, CFM – ms consultants, inc.*
Summary	This abstract encapsulates the findings and recommendations of the Morgan County Flood Mitigation Study, aimed at addressing recurrent flooding challenges within the Muskingum River watershed. Focused on the communities of Malta and McConnelsville, this study was necessitated by severe flooding incidents in February 2019 and February 2022. Led by ms consultants, the study employed advanced hydrological modeling, primarily utilizing the 1-dimensional Hydrologic Engineering Center – River Analysis System (HEC-RAS), to dissect the underlying factors contributing to flooding and to propose effective mitigation strategies.
	The primary objective was to identify measures capable of mitigating flooding impacts up to the 1% Annual Exceedance Probability (AEP), commonly known as the 100-year flood event. This threshold was chosen strategically, aligning with FEMA funding criteria, thus enhancing the potential for securing future construction funding. After meticulous analysis and evaluation, three preferred alternatives emerged as viable solutions to ameliorate flooding in McConnelsville. A number of alternatives were evaluated and will be presented during the conference.
	In summary, the Morgan County Flood Mitigation Study offers a robust framework for enhancing flood resilience in the region. By prioritizing the 1% AEP threshold and exploring multifaceted mitigation strategies, the study underscores the imperative of proactive intervention to safeguard communities against the escalating threat of flooding events. Through strategic partnerships and concerted efforts, the implementation of these recommendations proposes to usher in a new era of resilience and sustainability for Morgan County, Ohio.
Target Audience	Intermediate - Advanced

TRACK 2	**BETTER DATA FOR BETTER FLOODPLAIN MANAGEMENT**
1:30 – 2:15pm	**Expansion of National Weather Service (NWS) Experimental Flood Mapping Across Ohio**
Presenters	*Julia Dian-Reed - National Weather Service Weather Forecast Office, Wilmington OH*
	Nicholas Greenawalt - National Weather Service Weather Forecast Office, Cleveland, OH
Summary	Flooding is the most frequent severe-weather related threat and the costliest natural disaster in the United States. Emergency officials, planners and the private sector have long articulated a need for real-time, detailed, actionable, neighborhood-level Flood Inundation Maps (FIM) depicting the extent and infrastructure impacted by flood waters.
	To help meet these needs, the National Weather Service (NWS) is expanding new experimental flood inundation mapping services to its suite of forecast services. These services complement and support the issuance of flood watches and warnings by providing a visualization of where flood waters are expected. By putting water on the map, decision makers can readily see the potential impacts rather than relying solely on past flood experience or flood impact statements. These experimental FIM services are already available in portions of eastern Ohio, and will be expanded across most of Ohio in fall 2024. Much of northern Ohio FIM services will come online in fall 2025, with services for all of Ohio available by fall 2026.
	This presentation will examine the expansion of NWS FIM services across Ohio and how to view them, either via REST services or the new water.noaa.gov page (National Water Prediction Service - NWPS). NWS Weather Forecast Offices (WFOs) and the Ohio River Forecast Center (OHRFC) have been reviewing and annotating NWS experimental FIM performance during 2024 flooding. Some results of these reviews will be presented, with an overview of the different types of FIM services and their availability also being discussed.
Target Audience	Everyone

2:15 – 3:00pm	**My Flood Map Shows What? Methods of Revising FEMA Regulatory Data**

Presenters	*Roger Denick, PE, CFM – Stantec Consulting*
	Andrea Weakland – Stantec Consulting
Summary	The FEMA Flood Insurance Rate Maps, Flood Insurance Study and database convey information on flood risks for a community, but this information is not perfect. Typos, errors and incorrect data can sometimes be found in the regulatory products. But what can be done to fix these issues? It all depends on what the issue is. This presentation will cover the different methods available to FEMA to update these products including Letter of Map Amendment (LOMA), Notice to User (NTU), FEMA initiated Letter of Map Revision (LOMR), community initiated LOMR, Physical Map Revision (PMR) and a watershed study. In addition, this presentation will provide an overview of which method is more appropriate, data needed and workflow.
Target Audience	Everyone

3:00 – 3:30pm	**Survey Data Incorporation into a HEC-RAS Model**
Presenters	*Ekaraj Ghimire, PE – Stantec Consulting*
Summary	The terrain used in floodplain mapping plays a significant role in generating precise flood maps. While Light Detection and Ranging (LiDAR) terrain is one of the common sources, its limitation lies in its inability to penetrate below the water surface. Consequently, channel bathymetry remains inadequately captured resulting in inaccurate channel representations and eventually impacting the floodplain delineation. One of the biggest challenges in hydraulic modeling is ensuring the proper representation of channels and structures to reflect real-world conditions. It becomes imperative to conduct survey and integrate channel data into the hydraulic models to improve floodplain mapping particularly for detailed hydraulic study. This presentation focuses on developing effective techniques to integrate field survey data into the HEC-RAS modeling. It highlights utilization of the "Point to Line" GIS tool in precisely incorporating survey points into the HEC-RAS models. This methodology would be beneficial for both 1D and 2D riverine modeling, as both modeling techniques rely heavily on accurate terrain to produce more reliable model outcomes.
Target Audience	Advanced

TRACK 3	**THE BASICS OF FLOODPLAIN MANAGEMENT**
1:30 – 2:15pm	**Understanding How to Read & Use a Flood Insurance Rate Map (FIRM) & Flood Insurance Study (FIS) – Part 2**
Presenters	*Katherine Goeppner, CFM – ODNR Floodplain Management Program*
	Rachel Woods – ODNR Floodplain Management Program
	Sam Beam – ODNR Floodplain Management Program
Summary	This presentation will provide an overview of floodplain mapping through the NFIP. Using the Flood Insurance Study (FIS) to determine the Base Flood Elevation (BFE) will also be discussed. This presentation is geared towards newer floodplain managers or participants who want to brush up on the basics of mapping. Part 2 of 2.
Target Audience	Beginner

2:00 – 3:00pm	**Understanding Hydrology & Hydraulics – Basics for Floodplain Managers**
Presenter	*Jacob Bench, PE – ODNR Floodplain Management Program*
Summary	H&H is a cornerstone of the NFIP, but who understands it? This presentation is targeted at non-engineer floodplain managers to introduce the basics of how H&H is developed and utilized.
Target Audience	Beginner - Intermediate

3:00 – 3:30pm	**NFIP Floodplain Management Regulations & Letters of Map Change – Part 1**
Presenter	*Michelle Staff, CFM – FEMA Region 5*
Summary	A Letter of Map Change (LOMC) is a letter that reflects an official Amendment or Revision to an effective FEMA Flood Insurance Rate Map (FIRM). There are two basic categories of LOMCs: Amendments and Revisions. We will discuss different types of LOMCs and when they are required through the NFIP. Part 1 of 2.

Target Audience   Beginner - Intermediate

3:30 – 3:45pm   BREAK & EXHIBITS

TRACK 1   ENGINEERING IN FLOODPLAIN MANAGEMENT
3:45 – 4:30pm   **Scour at Bridges, A Review of FHWA Requirements**
Presenter   *Doug Turney, PE, CFM – EMH&T*
Summary   Stream scour poses significant challenges to the stability and longevity of bridges and open bottom culverts and is one of the major causes of bridge failure.   The Federal Highway Administration has recently issued new guidelines prompting revisions to the ODOT design manuals regarding the calculation of scour. This presentation will review the preferred practices and provide examples of calculating abutment and pier scour in granular and cohesive soils as well as rock scour.
Target Audience   Advanced

4:30 – 5:00pm   **2D HEC-RAS Model Calibration with Varying Input Parameters**
Presenter   *Alec Jacobs, PE – Stantec Consulting*
Summary   2D HEC-RAS modeling has been rapidly developing in recent years and plays a more important role in flood inundation mapping. It's ability to be more representative for wider range of floodplains and land use types has been widely recognized. 2D modeling can handle split flows and complex overbank flows with varying flow paths easier than 1D modeling. With the level of detail that 2D models can achieve, more considerations could be taken including mesh size, refinement options, infiltration methods, Manning's n values, and computation equation options. The presentation will focus on the results from several different scenarios to compare how a watershed responds to changes in these input parameters. The results can assist in future 2D modeling processes and procedures to ensure 2D modeling is being developed properly and efficiently for floodplain mapping and analysis.
Target Audience   Advanced

TRACK 2   FLOODPLAIN MANAGEMENT REGULATIONS
3:45 – 5:00pm   **Advanced Standards for Better Watershed Management Workshop**
Presenters   *Kari Mackenbach, CFM – ms consultants, inc*
    Alicia Silverio, CFM – ODNR Floodplain Management Program
Summary   Protecting critical infrastructure can be as simple as considering adopting higher standards for areas that should have a higher level of flood protection. Learn how several communities in Ohio have either considered or adopted higher floodplain management standards for critical areas of concern. Find out how these communities worked with residents and leadership to effectively communicate what higher standards can accomplish, challenges faced in selecting and adopting these standards, and local implementation.

    Learning objectives:
    Upon completion of this course, participants will be able to:
    1. Identify and consider other long-standing advanced standards adopted by other communities.
    2. Learn the public outreach process to consider adopting advanced standards for better floodplain management
    3. Explain the process for adopting higher standards.
Target Audience   Everyone

TRACK 3   THE BASICS OF FLOODPLAIN MANAGEMENT
3:45 – 4:30pm   **NFIP Floodplain Management Regulations & Letters of Map Change – Part 2**
Presenter   *Michelle Staff, CFM – FEMA Region 5*
Summary   A Letter of Map Change (LOMC) is a letter that reflects an official Amendment or Revision to an effective FEMA Flood Insurance Rate Map (FIRM). There are two basic categories of LOMCs: Amendments and Revisions. We will discuss different types of LOMCs and when they are required through the NFIP. Part 2 of 2.

Target Audience	Beginner - Intermediate

4:30 – 5:00pm   **Introduction to Flood Insurance through the NFIP**
Presenter   *James Sink – FEMA Region 5*
Summary   This session is an introduction to the (NFIP's) rating methodology. You learn about key concepts of the pricing methodology including...
                   1. Rating elements related to where and how a structure is constructed;
                   2. Rating elements related to what is covered and the amount of coverage selected;
                   3. Rating elements related to loss history; and,
                   4. Discounts.
Target Audience   Everyone

5:15 – 6:30pm   EXHIBITS & NETWORKING EVENT

THURSDAY, AUGUST 22, 2024

7:00 – 8:00am   **REGISTRATION, BREAKFAST, & EXHIBITS**

TRACK 1   **PROFESSIONAL DEVELOPMENT IN FLOODPLAIN MANAGEMENT**
8:00 – 10:00am   **Certified Floodplain Manager (CFM) Bootcamp**
Presenters   *Louie Greenwell, CFM – Association of State Floodplain Managers*
Jacob Hoover, AICP, CFM – Ohio Emergency Management Agency
Summary   Session will help individuals learn how best to prepare for ASFPM's Certified Floodplain Manager (CFM) Exam. Attending this session is not a guarantee of passing the exam.
Target Audience   Everyone

TRACK 2   **POST-DISASTER FLOODPLAIN MANAGEMENT**
8:00 – 10:00am   **Substantial Damage Assessment/Determinations & Requesting Assistance from the Ohio Building Officials Disaster Assessment Response Team (DART) – Part 1**
Presenters   *Ohio Building Officials Association (OBOA)*
Summary   Presentation will discuss substantial damage regulations, conducting field inspections of damage structures, post-disaster procedures, requesting Disaster Assessment Response Team (DART) assistance, & applicable building code regulations. Part 1 of 2.
Target Audience   Everyone

TRACK 3   **LEVEES IN FLOODPLAIN MANAGEMENT**
8:00 – 8:30am   **Levee Safety Update**
Presenter   *Jacob Bench, PE, CFM - ODNR Floodplain Management Program*
Target Audience   Everyone

8:30 – 9:00am   **Flooding Behind Accredited Levees**
Presenter   *Jacob Bench, PE, CFM - ODNR Floodplain Management Program*
Target Audience   Everyone

9:00 – 10:00am   **Levee Assessment for Strategic Planning**
Presenter   *Charles J. Griebling, PE, CFM - Civil & Environmental Consultants, Inc.*
Summary   An assessment and risk prioritization study of approximately nine miles of levee was conducted for the Reno Beach/Howard Marsh Conservancy District and Jerusalem Township. The levee system includes newly installed levees associated with the Howard Marsh restoration, private legacy dikes installed between 1902 and 1943, and an USACE constructed levee segment built in 1973 and reinforced in 1993. The purpose was the develop a strategic implementation plan for shoreline protection through infrastructure reinforcement and improvements to build resiliency in the face of potential large-scale flooding. Like many legacy levee systems found in Ohio the levee system was in various levels of disrepair. This presentation will outline the steps taken to perform this assessment, discuss limitations of this level of assessment, and discuss the results and next steps. Topics to be covered during the presentation include Field Methodologies, Hydraulic Levee Overtopping Analysis, Hydraulic Levee Breach Analysis, Hazard Risk Assessment, Levee Segment Prioritization, General and Key Corrective Action and FEMA Levee Accreditation Criteria.
Target Audience   Everyone

10:00 – 10:15am   **BREAK & EXHIBITS**

TRACK 1   **CREATING RESILIENCE**
10:15 – 11:00am   **HUD's Federal Flood Risk Management Standard Final Rule: Implications for States & Communities**
Presenter   *Chad Berginnis, CFM - ASFPM*

| Summary | On April 23, 2024, HUD issued a final rule to implement the Federal Flood Risk Management Standard. HUD's rule is particularly strong and will have far reaching effects on housing and other development activities that are funded, financed or undertaken by HUD. Further, the new minimum property standards and disclosure requirements will likely require some effort by communities. This presentation will discuss the important aspects of the rule and the implications for states and communities. |
| Target Audience | Everyone |

11:00 – Noon	**The Heart of It All, Not Just a Tourism Slogan**
Presenters	*Mark Seidelmann, PE, GISP, PMP, CFM – Stantec Consulting*
	Jacob Hoover, AICP, CFM – Ohio EMA
	Alicia Silverio, CFM - ODNR Floodplain Management Program
Summary	THE Ohio Floodplain Management Association (OFMA) has been a voice and consistent fixture in Ohio for the past 28 years. OFMA's main focus from the beginning has been the local floodplain manager and their needs. Balancing this priority with the other partners and players who influence floodplain use and development has been a driving force in the association's agenda. At the heart of this organization is a dedicated and talented group of volunteers from both the Private and public sectors who provide their time and talent time and time again to support the organization. With very little resources, OFMA has continually provided opportunities for education at our yearly conference, and supported floodplain managers who balance their many day-to-day responsibilities. This support includes providing talking points to communicate with their constituents and organizations, technical expertise to work through complicated floodplain regulation conversations, and providing solid and cost-effective continuing education opportunities for professional accreditation. This presentation by current active OFMA board and committee members will highlight best practices and lessons learned related to; developing a sustainable membership, provide quality educational opportunities for floodplain management professionals, developing a legislative agenda and policy support for good floodplain management, and developing and strengthen collaborative partnerships picked up from several decades of dedicated support.
Target Audience	Everyone

TRACK 2	**POST-DISASTER FLOODPLAIN MANAGEMENT**
10:15 – 11:15am	**Substantial Damage Assessment/Determinations & Requesting Assistance from the Ohio Building Officials Disaster Assessment Response Team (DART) – Part 2**
Presenters	*Ohio Building Officials Association (OBOA)*
Summary	Presentation will discuss substantial damage regulations, conducting field inspections of damage structures, post-disaster procedures, requesting Disaster Assessment Response Team (DART) assistance, & applicable building code regulations. Part 2 of 2.
Target Audience	Everyone

11:15 – 12:00pm	**SD Field Inspection App & Demo**
Presenters	*Sam Beam, CFM – ODNR Floodplain Management Program*
	Jacob Bench, PE, CFM - ODNR Floodplain Management Program
Summary	ODNR's Floodplain Management Program will introduce and demonstrate their newly developed APP to help communities perform field inspections of residential and nonresidential structures for substantial damage determinations.
Target Audience	Everyone

TRACK 3	**THE REALITIES OF FLOOD RISK**
10:15 – 11:00am	**Live Jam Session: Detecting Log Jams in Real-time, Before They Pile Up**
Presenter	*Ariel Roy - HiFi*
Summary	Debris jams, including logjams and ice jams, are one of the top issues reported to the Ohio Department of Natural Resources every year. In this presentation, we will introduce a proactive approach using smart sensors and Artificial Intelligence (AI) to detect debris jams in real-time,

enabling faster response times before adverse impacts pile up. We will demonstrate the effectiveness of the approach with a real-world case study in Dearborn, Michigan, where a sensor network along the Rouge River successfully alerted public works staff to early-stage logjams during the summer of 2023.

Logjams can result in extensive flooding and property damage and incur tremendous costs for removal and remediation. During large storm events, they can form and pile up rapidly, meaning that public works staff may not become aware of the issue until it is too late. Locating jams is also time and labor-intensive. For example, in the city of Dearborn, MI, this often involves sending workers to walk the stretch of river and visually identify obstructions. The ability to identify and pinpoint logjams in real-time, before they pile up and become expensive to remove, could give managers more time to react and allocate resources.

Our approach integrates advanced sensors capable of detecting obstructions and anomalies in water flow. These sensors, strategically placed along waterways, collect real-time data on water levels and potential obstructions. Coupled with AI algorithms, this technology continuously analyzes changes in water level patterns, identifying log jams and triggering alerts for timely intervention. Once confirmed by the automated systems, alerts are sent via email or text message to field staff and managers.

In Dearborn, 7 wireless water level sensors were deployed along several miles of the Rouge River. The non-contact sensors were deployed along bridges to report water elevation in real time (NAVD88). The locations were strategically selected based on historical areas of concern and road crossings. The sensor data is reported in real-time, and an AI system compares the measurements with historical expectations of free-flow. If deviations from expected conditions are detected, the automated system alerts city staff via email or text message. In July of 2023, the Detroit metro region was hit by several large storms. On July 20th, 2023, the AI sensor system identified that the trend in water levels between adjacent bridges on the River Rouge was deviating from free-flow conditions, indicating that debris was accumulating between the two locations. City personnel were immediately notified of both the time and location of the potential jam. Using that information, the city staff were able to quickly deploy workers to the location of interest and confirm that a "massive" logjam was forming. Throughout the summer, three other similar logjam events were detected in other locations, all of which were successfully caught by the AI system. As Dearborn implemented programs to clear the jams, the data was also used by the Department of Public Works to quantifiably demonstrate the success of those log removal programs, as measured by how long it took river level differences to equalize.

The implementation of real-time log jam detection through smart sensors and AI not only mitigates immediate threats but also fosters a resilient infrastructure, reducing the risks of property damage and decreasing the financial burden associated with emergency responses to log jams. These advancements in technology represent progress towards building resilience block-by-block, offering a scalable solution that can be adapted by communities of all sizes facing similar challenges. During this presentation, we will discuss the scalability of the systems, as well as the potential to apply it to smaller water bodies, such as streams, culverts, and pipes.

Target Audience | Intermediate - Advanced

11:00am – Noon
Presenter
Summary

Understanding Active & Passive Floodproofing Options For Non-residential Buildings in a SFHA
Kurt Luecke, CFM – Floodproofing.com
This course identifies the effects of hydrostatic pressure on building sustainability and explains dry and wet floodproofing techniques are utilized to mitigate against flood damage. A review of the liability associated with each floodproofing option is provided. Relevant FEMA regulations including the 2021 revised TB-3, ICC building codes, and ASCE 24 are reviewed. The course provides an in-depth analysis of active and passive floodproofing options and the effect each of these options have on a

design. Case studies will demonstrate how to effectively incorporate floodproofing techniques in projects.

Learning Objectives:
• Identify the applicable ICC building codes and FEMA regulations pertaining to non-residential floodproofing options
• Understand the design benefits for each dry floodproofing and wet floodproofing option
• Identify design issues and occupant' risk associated with active floodproofing techniques and the liability associated with those risks
• Analyze the differences between active and passive floodproofing techniques and how they affect the buildings' sustainability

Target Audience   Everyone

Noon – 12:15pm   BREAK & EXHIBITS
12:15 – 1:30pm   LUNCH & KEYNOTE ADDRESS
Kelsea Best, PHD, Assistant Professor - Urban Climate Resilience & Adaptation Disparities
The Ohio State University
1:30 – 1:45pm   BREAK & EXHIBITS

TRACK 1   IMPLEMENTING THE NFIP
1:45 – 2:45pm   **Resolving Potential Violations & Developing Corrective Action Plans – Guidance for Communities**
Michelle Staff, CFM – FEMA Region 5

Target Audience   Everyone

2:30 – 3:30pm   **Floodplain Management FAQs**
Rachel Woods, CFM – ODNR Floodplain Management Program
Sam Beam, CFM – ODNR Floodplain Management Program
Summary   ODNR FMP Staff will discuss some of the most frequently asked questions about the State NFIP Coordinating Office receives about floodplain management & the NFIP.
Target Audience   Everyone

3:30 – 4:00pm   **One-On-One Floodplain Management Consultations – Bring Your Questions to Ask ODNR & FEMA Staff**
ODNR – Floodplain Management Program
FEMA Region 5
Summary   ODNR & FEMA Staff will be available for one-on-one community consultations. Just like the monthly Office Hours, attendees can have detailed discussions on issues individually.
Target Audience   Everyone

TRACK 2   POST-DISASTER FLOODPLAIN MANAGEMENT
1:45 – 2:30pm   **Implementing Floodplain Management Regulations After the March 2024 Tornadoes – Post Disaster Discussion**
Presenter   *Speakers TBD…*
Summary   Speakers will discuss their experiences in administering floodplain management regulations in Special Flood Hazard Areas (SFHA) after the tornado event.
Target Audience   Everyone

2:30 – 3:00pm   **Substantial Damage Assessment Field Guide**
Presenter   *ODNR Floodplain Management Program*
Summary   Session will introduce attendees to ODNR's new Substantial Damage Assessment Field Guide.
Target Audience   Everyone

3:00 – 4:00pm   **Flood Resistant Materials**
Presenter   *Duane Matlack, CBO, CFM – Delaware County Code Compliance*

Target Audience   Everyone

TRACK 3   **ETHICS FOR ENGINEERS & FLOODPLAIN MANAGERS**
1:45 – 4:00pm   **ETHICS for Engineers & Floodplain Managers**
Presenters   *Louie Greenwell, CFM - ASFPM*
                     Jacob Hoover, AICP, CFM – Ohio Emergency Management Agency
                     Chad Boyer, PE, CFM – ms consultants, inc.
Summary   ASFPM Ethics course focused on professional ethics. (Attendees who would like certificates must
                     sign in at the session.)
Target Audience   Everyone

4:00pm   **REFRESHMENTS & DEPARTURE**